

B1
6. A radiological imaging method, in which a compression element for an object is mounted on a radiological device having means for emission of an X-ray beam and means for receiving the X-ray beam after the beam has crossed the object to be studied and means for calculation for controlling the means for emission and for processing data from the means for receiving, comprising the steps for:

- a. placing the object between the means for receiving and the compression element;
 - b. taking a first radiological image of the object; and
 - c. processing the first radiological image in order to optimize image quality over a particular area defined by the compression element.
-

B2
8. The method according to claim 6 comprising the steps for:

- a. establishing a histogram of the image (real histogram);
- b. establishing a mathematical model of the image chain;
- c. determining parameters of the object by calibration;
- d. determining parameters for acquisition of the image;
- e. determining parameters of the means for receiving;
- f. determining parameters for positioning the device;
- g. using steps a to f to determine two gray level values, min_gray and max_gray, taken in the particular area and delimiting a useful gray area;
- h. eliminating the part below min_gray and the part above max_gray in the real histogram in order to obtain a limited histogram;
- i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
- j. obtaining a WW contrast from the WL brightness level and possibly from one or more parameters chosen by a user or fixed a priori.

- 102
9. The method according to claim 7 comprising the steps for:
- a. establishing a histogram of the image (real histogram);
 - b. establishing a mathematical model of the image chain;
 - c. determining parameters of the object by calibration;
 - d. determining parameters for acquisition of the image;
 - e. determining parameters of the means for receiving;
 - f. determining parameters for positioning the device;
 - g. using steps a to f to determine two gray level values, min_gray and max_gray, taken in the particular area and delimiting a useful gray area;
 - h. eliminating the part below min_gray and the part above max_gray in the real histogram in order to obtain a limited histogram;
 - i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
 - j. obtaining a WW contrast from the WL brightness level and possibly from one or more parameters chosen by a user or fixed a priori.

10. A radiological imaging process, in which an element having a given X-ray absorption is placed on the path of an X-ray beam of a radiological device, the radiological device comprising means for emission of the X-ray beam and means for receiving the X-ray beam after the beam has crossed an object to be studied and means for calculation for controlling the means for emission and for processing data from the means for receiving, comprising the steps for :

- a. placing the object on the path of the X-ray beam;
 - b. taking a first radiological image of the object and;
 - c. processing the first radiological image in order to optimize image quality on a particular area defined by the element.
-

17. An article of manufacture comprising:

a. a computer useable medium having computer readable program code means embodied therein for taking a first radiological image by a device having means for emission of an X-ray beam and means for receiving the X-ray beam after the beam has crossed an object to be studied, wherein the object being disposed between the means for emission and a means compression, and means for calculation for controlling the means for emission and means for processing data from the means for receiving; and

b. the computer readable program code means processing the first radiological image for optimizing the image quality over a particular area defined by the means for compression.

18. The article of claim 17 wherein the computer readable program code means comprises program code for causing a coder for the means for compression to cooperate with means for recognition of the means for compression.

19. The article of claim 17 wherein the computer readable program code means comprises steps for:

a. forming a real histogram of the image;

b. establishing a mathematical model of the image chain;

c. determining parameters of the object by calculation;

d. determining parameters of the acquisition of the image;

e. determining parameters of the means for receiving;

f. determining parameters for positioning of the device;

g. determining two gray levels values, min_gray and max_gray, taken in a particular area and delimiting a gray area;

h. eliminating a part below min_gray and a part above max_gray in the histogram in order to obtain a limited histogram;

i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and

l. obtaining a WW contrast from the WL brightness level and possible from one or more parameters chosen by the user or fixed a priori.

Concluded
B3

20. The article of claim 17 wherein the article is a support capable of being read by a reading device for the computer readable program code means embodied therein.

Add new claim 21:

21. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for taking a radiological image of an object, the method steps comprising:

- B4
- a. forming a real histogram of the image;
 - b. establishing a mathematical model of the image chain;
 - c. determining parameters of the object by calculation;
 - d. determining parameters of the acquisition of the image;
 - e. determining parameters of the means for receiving;
 - f. determining parameters for positioning of the device;
 - g. determining two gray levels values, min_gray and max_gray, taken in a particular area and delimiting a gray area;
 - h. eliminating a part below min_gray and a part above max_gray in the histogram in order to obtain a limited histogram;
 - i. applying a set of rules to the limited histogram in order to determine a WL brightness level; and
 - j. obtaining a WW contrast from the WL brightness level and possible from one or more parameters chosen by the user or fixed a priori.
-